

 **ANALYTICAL REPORT****PREPARED FOR**

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Generated 9/9/2023 9:36:32 AM

JOB DESCRIPTION

RED-HILL

JOB NUMBER

380-50374-2

Eurofins Eaton Analytical Pomona

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, LLC Project Manager.

Compliance Statement

1. Laboratory is accredited in accordance with TNI 2016 Standards and ISO/IEC 17025:2017.
2. Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis
3. Test results relate only to the sample(s) tested.
4. This report shall not be reproduced except in full, without the written approval of the laboratory.
5. Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. (DW, Water matrices)

Authorization



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Definitions/Glossary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Qualifiers

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Job ID: 380-50374-2

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-50374-2

Comments

No additional comments.

Receipt

The samples were received on 6/7/2023 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.2° C, 1.5° C, 2.3° C and 2.6° C.

Subcontract non-Sister

See attached subcontract report.

Subcontract Work

Methods 8015 Gas (Purgeable) LL (EAL), 8015 LL DRO/MRO/JP5/JP8: These methods were subcontracted to EMAX Laboratories Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report.

Method 625 PAH Physis LL (EAL) + TICs: This method was subcontracted to Physis Environmental Laboratories. The subcontract laboratory certification is different from that of the facility issuing the final report.



Detection Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Client Sample ID: MOANALUA WELLS **Lab Sample ID: 380-50374-1**

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2 **Lab Sample ID: 380-50374-2**

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2 **Lab Sample ID: 380-50374-3**

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 **Lab Sample ID: 380-50374-4**

No Detections.

Client Sample ID: TB MOANALUA WELLS **Lab Sample ID: 380-50374-5**

No Detections.

Client Sample ID: TB AIEA GULCH WELLS PUMP 2 **Lab Sample ID: 380-50374-6**

No Detections.

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2 **Lab Sample ID: 380-50374-7**

No Detections.

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1 **Lab Sample ID: 380-50374-8**

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-50374-1

Date Collected: 06/05/23 09:59

Matrix: Drinking Water

Date Received: 06/07/23 10:00

Method: 625 PAH Physiol LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Acenaphthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Acenaphthylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Biphenyl	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Chrysene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Dibenzothiophene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		06/09/23 00:00	06/22/23 22:32	1
Fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Fluorene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Naphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Perylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Phenanthrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1
Pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 22:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	83		27 - 133	06/09/23 00:00	06/22/23 22:32	1
(d10-Phenanthrene)	85		43 - 129	06/09/23 00:00	06/22/23 22:32	1
(d12-Chrysene)	86		52 - 144	06/09/23 00:00	06/22/23 22:32	1
(d12-Perylene)	96		36 - 161	06/09/23 00:00	06/22/23 22:32	1
(d8-Naphthalene)	73		25 - 125	06/09/23 00:00	06/22/23 22:32	1

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			06/10/23 05:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	74		60 - 140		06/10/23 05:32	1

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.028		mg/L			06/17/23 22:59	1
JP5	ND	U	0.056		mg/L			06/17/23 22:59	1
JP8	ND	U	0.056		mg/L			06/17/23 22:59	1
MOTOR OIL	ND	U	0.056		mg/L			06/17/23 22:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	84		60 - 130		06/17/23 22:59	1

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Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-50374-1

Date Collected: 06/05/23 09:59

Matrix: Drinking Water

Date Received: 06/07/23 10:00

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
HEXACOSANE	79		60 - 130		06/17/23 22:59	1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-50374-2

Date Collected: 06/05/23 11:42

Matrix: Drinking Water

Date Received: 06/07/23 10:00

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics I

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Acenaphthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Acenaphthylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Biphenyl	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Chrysene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Dibenzothiophene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		06/09/23 00:00	06/23/23 00:18	1
Fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Fluorene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Naphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Perylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Phenanthrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1
Pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 00:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	84		27 - 133	06/09/23 00:00	06/23/23 00:18	1
(d10-Phenanthrene)	86		43 - 129	06/09/23 00:00	06/23/23 00:18	1
(d12-Chrysene)	85		52 - 144	06/09/23 00:00	06/23/23 00:18	1
(d12-Perylene)	96		36 - 161	06/09/23 00:00	06/23/23 00:18	1
(d8-Naphthalene)	74		25 - 125	06/09/23 00:00	06/23/23 00:18	1

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			06/10/23 07:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	74		60 - 140		06/10/23 07:20	1

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Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-50374-2

Date Collected: 06/05/23 11:42

Matrix: Drinking Water

Date Received: 06/07/23 10:00

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.027		mg/L			06/17/23 23:17	1
JP5	ND	U	0.055		mg/L			06/17/23 23:17	1
JP8	ND	U	0.055		mg/L			06/17/23 23:17	1
MOTOR OIL	ND	U	0.055		mg/L			06/17/23 23:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	80		60 - 130		06/17/23 23:17	1
HEXACOSANE	77		60 - 130		06/17/23 23:17	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-50374-3

Date Collected: 06/05/23 11:05

Matrix: Drinking Water

Date Received: 06/07/23 10:00

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Acenaphthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Acenaphthylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Biphenyl	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Chrysene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Dibenzothiophene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		06/09/23 00:00	06/23/23 02:05	1
Fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Fluorene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Naphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Perylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Phenanthrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1
Pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 02:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	83		27 - 133	06/09/23 00:00	06/23/23 02:05	1
(d10-Phenanthrene)	86		43 - 129	06/09/23 00:00	06/23/23 02:05	1
(d12-Chrysene)	84		52 - 144	06/09/23 00:00	06/23/23 02:05	1
(d12-Perylene)	81		36 - 161	06/09/23 00:00	06/23/23 02:05	1
(d8-Naphthalene)	77		25 - 125	06/09/23 00:00	06/23/23 02:05	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-50374-3

Date Collected: 06/05/23 11:05

Matrix: Drinking Water

Date Received: 06/07/23 10:00

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			06/10/23 07:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	74		60 - 140					06/10/23 07:55	1

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.027		mg/L			06/17/23 23:36	1
JP5	ND	U	0.053		mg/L			06/17/23 23:36	1
JP8	ND	U	0.053		mg/L			06/17/23 23:36	1
MOTOR OIL	ND	U	0.053		mg/L			06/17/23 23:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE	82		60 - 130					06/17/23 23:36	1
HEXACOSANE	86		60 - 130					06/17/23 23:36	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-50374-4

Date Collected: 06/05/23 10:33

Matrix: Drinking Water

Date Received: 06/07/23 10:00

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Acenaphthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Acenaphthylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Biphenyl	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Chrysene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Dibenzothiophene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Disalicylideneopropanediamine	ND		0.1	0.05	µg/L		06/09/23 00:00	06/23/23 03:51	1
Fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Fluorene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Naphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Perylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Phenanthrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1
Pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/23/23 03:51	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-50374-4

Date Collected: 06/05/23 10:33

Matrix: Drinking Water

Date Received: 06/07/23 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	80		27 - 133	06/09/23 00:00	06/23/23 03:51	1
(d10-Phenanthrene)	89		43 - 129	06/09/23 00:00	06/23/23 03:51	1
(d12-Chrysene)	84		52 - 144	06/09/23 00:00	06/23/23 03:51	1
(d12-Perylene)	86		36 - 161	06/09/23 00:00	06/23/23 03:51	1
(d8-Naphthalene)	74		25 - 125	06/09/23 00:00	06/23/23 03:51	1

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			06/10/23 08:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	75		60 - 140		06/10/23 08:31	1

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.027		mg/L			06/17/23 23:54	1
JP5	ND	U	0.053		mg/L			06/17/23 23:54	1
JP8	ND	U	0.053		mg/L			06/17/23 23:54	1
MOTOR OIL	ND	U	0.053		mg/L			06/17/23 23:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	83		60 - 130		06/17/23 23:54	1
HEXACOSANE	85		60 - 130		06/17/23 23:54	1

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-50374-5

Date Collected: 06/05/23 09:59

Matrix: Water

Date Received: 06/07/23 10:00

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			06/10/23 09:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	76		60 - 140		06/10/23 09:07	1

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-50374-6

Date Collected: 06/05/23 11:42

Matrix: Water

Date Received: 06/07/23 10:00

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			06/10/23 09:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	72		60 - 140		06/10/23 09:43	1

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-50374-7

Date Collected: 06/05/23 11:05

Matrix: Water

Date Received: 06/07/23 10:00

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			06/10/23 10:19	1

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Client Sample Results

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-50374-2

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-50374-7

Date Collected: 06/05/23 11:05

Matrix: Water

Date Received: 06/07/23 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	72		60 - 140		06/10/23 10:19	1

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-50374-8

Date Collected: 06/05/23 10:33

Matrix: Water

Date Received: 06/07/23 10:00

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			06/10/23 10:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	72		60 - 140		06/10/23 10:55	1

Surrogate Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: BlankMatrix

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
107272-B1	Method Blank	95	91	89	83	87
107272-BS1	Lab Control Sample	87	111	102	80	99
107272-BS2	Lab Control Sample Dup	82	106	97	75	91

Surrogate Legend
(d10-Acenaphthene) = (d10-Acenaphthene)
(d10-Phenanthrene) = (d10-Phenanthrene)
CRY = (d12-Chrysene)
NPT = (d8-Naphthalene)
PRY = (d12-Perylene)

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
380-50374-1	MOANALUA WELLS	83	85	86	73	96
380-50374-2	AIEA GULCH WELLS PUMP 2	84	86	85	74	96
380-50374-3	AIEA WELLS PUMPS 1&2 (260) P2	83	86	84	77	81
380-50374-4	HALAWA WELLS UNITS 1 & 2 P1	80	89	84	74	86

Surrogate Legend
(d10-Acenaphthene) = (d10-Acenaphthene)
(d10-Phenanthrene) = (d10-Phenanthrene)
CRY = (d12-Chrysene)
NPT = (d8-Naphthalene)
PRY = (d12-Perylene)

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB (60-140)
380-50374-1	MOANALUA WELLS	74
380-50374-2	AIEA GULCH WELLS PUMP 2	74
380-50374-3	AIEA WELLS PUMPS 1&2 (260) P2	74
380-50374-4	HALAWA WELLS UNITS 1 & 2 P1	75

Surrogate Legend
BFB = BROMOFLUOROBENZENE

Surrogate Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-50374-2

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (70-130)
23VG39F05C	LCD	96
23VG39F05L	Lab Control Sample	99

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-50374-5	TB MOANALUA WELLS	76
380-50374-6	TB AIEA GULCH WELLS PUMP 2	72
380-50374-7	TB AIEA WELLS PUMPS 1&2 (260) P2	72
380-50374-8	TB HALAWA WELLS UNITS 1 & 2 P1	72

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
23F086-01M	Matrix Spike	101
23F086-01S	Matrix Spike Duplicate	102

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB
23VG39F05B	Method Blank	

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
380-50374-1	MOANALUA WELLS	84	79
380-50374-2	AIEA GULCH WELLS PUMP 2	80	77

Surrogate Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB	XACOSAI
		(60-130)	(60-130)
380-50374-3	AIEA WELLS PUMPS 1&2 (260)	82	86
380-50374-4	HALAWA WELLS UNITS 1 & 2 P1	83	85

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB	XACOSAI
		(60-130)	(60-130)
23DSF022WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB	XACOSAI
		(60-130)	(60-130)
23DSF022WC	LCD	87	94
23DSF022WL	Lab Control Sample	85	92
23J5F022WC	LCD	87	86
23J5F022WL	Lab Control Sample	86	75
23J8F022WC	LCD	99	82
23J8F022WL	Lab Control Sample	100	85

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Lab Sample ID: 107272-B1
Matrix: BlankMatrix
Analysis Batch: O-41086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-41086_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Acenaphthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Acenaphthylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Biphenyl	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Chrysene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Dibenzothiophene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		06/09/23 00:00	06/22/23 17:13	1
Fluoranthene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Fluorene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Naphthalene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Perylene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Phenanthrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1
Pyrene	ND		0.005	0.001	µg/L		06/09/23 00:00	06/22/23 17:13	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	95		27 - 133	06/09/23 00:00	06/22/23 17:13	1
(d10-Phenanthrene)	91		43 - 129	06/09/23 00:00	06/22/23 17:13	1
(d12-Chrysene)	89		52 - 144	06/09/23 00:00	06/22/23 17:13	1
(d12-Perylene)	87		36 - 161	06/09/23 00:00	06/22/23 17:13	1
(d8-Naphthalene)	83		25 - 125	06/09/23 00:00	06/22/23 17:13	1

Lab Sample ID: 107272-BS1
Matrix: BlankMatrix
Analysis Batch: O-41086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41086_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.437		µg/L		87	31 - 128
1-Methylphenanthrene	0.5	0.454		µg/L		91	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.434		µg/L		87	55 - 122
2,6-Dimethylnaphthalene	0.5	0.434		µg/L		87	48 - 120
2-Methylnaphthalene	0.5	0.436		µg/L		87	47 - 130
Acenaphthene	0.5	0.433		µg/L		87	53 - 131
Acenaphthylene	0.5	0.434		µg/L		87	43 - 140
Anthracene	0.5	0.419		µg/L		84	58 - 135

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Lab Sample ID: 107272-BS1
Matrix: BlankMatrix
Analysis Batch: O-41086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41086_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benz[a]anthracene	0.5	0.692		µg/L		138	55 - 145
Benzo[a]pyrene	0.5	0.459		µg/L		92	51 - 143
Benzo[b]fluoranthene	0.5	0.479		µg/L		96	46 - 165
Benzo[e]pyrene	0.5	0.52		µg/L		104	42 - 152
Benzo[g,h,i]perylene	0.5	0.405		µg/L		81	63 - 133
Benzo[k]fluoranthene	0.5	0.48		µg/L		96	56 - 145
Biphenyl	0.5	0.451		µg/L		90	56 - 119
Chrysene	0.5	0.381		µg/L		76	56 - 141
Dibenz[a,h]anthracene	0.5	0.493		µg/L		99	55 - 150
Dibenzo[a,l]pyrene	0.5	0.552		µg/L		110	50 - 150
Dibenzothiophene	0.5	0.505		µg/L		101	46 - 126
Disalicylidenepropanediamine	50	26.1		µg/L		52	50 - 150
Fluoranthene	0.5	0.495		µg/L		99	60 - 146
Fluorene	0.5	0.444		µg/L		89	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.46		µg/L		92	50 - 151
Naphthalene	0.5	0.434		µg/L		87	41 - 126
Perylene	0.5	0.477		µg/L		95	48 - 141
Phenanthrene	0.5	0.555		µg/L		111	67 - 127
Pyrene	0.5	0.491		µg/L		98	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	87		27 - 133
(d10-Phenanthrene)	111		43 - 129
(d12-Chrysene)	102		52 - 144
(d12-Perylene)	99		36 - 161
(d8-Naphthalene)	80		25 - 125

Lab Sample ID: 107272-BS2
Matrix: BlankMatrix
Analysis Batch: O-41086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41086_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.393		µg/L		79	31 - 128	10	30
1-Methylphenanthrene	0.5	0.429		µg/L		86	66 - 127	6	30
2,3,5-Trimethylnaphthalene	0.5	0.421		µg/L		84	55 - 122	4	30
2,6-Dimethylnaphthalene	0.5	0.418		µg/L		84	48 - 120	4	30
2-Methylnaphthalene	0.5	0.409		µg/L		82	47 - 130	6	30
Acenaphthene	0.5	0.411		µg/L		82	53 - 131	6	30
Acenaphthylene	0.5	0.41		µg/L		82	43 - 140	6	30
Anthracene	0.5	0.365		µg/L		73	58 - 135	14	30
Benz[a]anthracene	0.5	0.66		µg/L		132	55 - 145	4	30
Benzo[a]pyrene	0.5	0.45		µg/L		90	51 - 143	2	30
Benzo[b]fluoranthene	0.5	0.446		µg/L		89	46 - 165	8	30
Benzo[e]pyrene	0.5	0.492		µg/L		98	42 - 152	6	30
Benzo[g,h,i]perylene	0.5	0.416		µg/L		83	63 - 133	2	30
Benzo[k]fluoranthene	0.5	0.471		µg/L		94	56 - 145	2	30
Biphenyl	0.5	0.414		µg/L		83	56 - 119	8	30
Chrysene	0.5	0.37		µg/L		74	56 - 141	3	30

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Lab Sample ID: 107272-BS2
Matrix: BlankMatrix
Analysis Batch: O-41086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41086_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibenz[a,h]anthracene	0.5	0.469		µg/L		94	55 - 150	5	30
Dibenzo[a,l]pyrene	0.5	0.529		µg/L		106	50 - 150	4	30
Dibenzothiophene	0.5	0.46		µg/L		92	46 - 126	9	30
Disalicylidenepropanediamine	50	30.8		µg/L		62	50 - 150	18	30
Fluoranthene	0.5	0.466		µg/L		93	60 - 146	6	30
Fluorene	0.5	0.421		µg/L		84	58 - 131	6	30
Indeno[1,2,3-cd]pyrene	0.5	0.472		µg/L		94	50 - 151	2	30
Naphthalene	0.5	0.407		µg/L		81	41 - 126	7	30
Perylene	0.5	0.496		µg/L		99	48 - 141	4	30
Phenanthrene	0.5	0.536		µg/L		107	67 - 127	4	30
Pyrene	0.5	0.469		µg/L		94	54 - 156	4	30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(d10-Acenaphthene)	82		27 - 133
(d10-Phenanthrene)	106		43 - 129
(d12-Chrysene)	97		52 - 144
(d12-Perylene)	91		36 - 161
(d8-Naphthalene)	75		25 - 125

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Lab Sample ID: 23VG39F05B
Matrix: WATER
Analysis Batch: 23VG39F05

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			06/09/23 16:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE					06/09/23 16:54	1

Lab Sample ID: 23VG39F05L
Matrix: WATER
Analysis Batch: 23VG39F05

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.5	0.428		mg/L		86	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOFLUOROBENZENE	99		70 - 130

Lab Sample ID: 23F086-01M
Matrix: WATER
Analysis Batch: 23VG39F05

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	ND		0.5	0.436		mg/L		87	50 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics (Continued)

Lab Sample ID: 23F086-01M
Matrix: WATER
Analysis Batch: 23VG39F05

Client Sample ID: Matrix Spike
Prep Type: Total/NA

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
BROMOFLUOROBENZENE	101		60 - 140

Lab Sample ID: 23F086-01S
Matrix: WATER
Analysis Batch: 23VG39F05

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
GASOLINE	ND		0.5	0.498		mg/L		100	50 - 130	13	30

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
BROMOFLUOROBENZENE	102		60 - 140

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Lab Sample ID: 23DSF022WB
Matrix: WATER
Analysis Batch: 23DSF022W

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			06/17/23 20:49	1
JP5	ND	U	0.05		mg/L			06/17/23 20:49	1
JP8	ND	U	0.05		mg/L			06/17/23 20:49	1
MOTOR OIL	ND	U	0.05		mg/L			06/17/23 20:49	1

	MB	MB			
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed
BROMOBENZENE					06/17/23 20:49
HEXACOSANE					06/17/23 20:49

Lab Sample ID: 23DSF022WL
Matrix: WATER
Analysis Batch: 23DSF022W

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DIESEL	2.5	2.24		mg/L		90	50 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
BROMOBENZENE	85		60 - 130
HEXACOSANE	92		60 - 130

Lab Sample ID: 23J5F022WL
Matrix: WATER
Analysis Batch: 23DSF022W

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP5	2.5	2.01		mg/L		80	30 - 160

QC Sample Results

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-50374-2

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

Lab Sample ID: 23J5F022WL
Matrix: WATER
Analysis Batch: 23DSF022W

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

<i>Surrogate</i>	<i>LCS</i> <i>%Recovery</i>	<i>LCS</i> <i>Qualifier</i>	<i>Limits</i>
BROMOBENZENE	86		60 - 130
HEXACOSANE	75		60 - 130

Lab Sample ID: 23J8F022WL
Matrix: WATER
Analysis Batch: 23DSF022W

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

<i>Analyte</i>	<i>Spike</i> <i>Added</i>	<i>LCS</i> <i>Result</i>	<i>LCS</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>
JP8	2.5	2.23		mg/L		89	30 - 160

<i>Surrogate</i>	<i>LCS</i> <i>%Recovery</i>	<i>LCS</i> <i>Qualifier</i>	<i>Limits</i>
BROMOBENZENE	100		60 - 130
HEXACOSANE	85		60 - 130

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QC Association Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-50374-2

Subcontract

Analysis Batch: O-41086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-50374-1	MOANALUA WELLS	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41086_P
380-50374-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41086_P
380-50374-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41086_P
380-50374-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-41086_P
107272-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41086_P
107272-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41086_P
107272-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-41086_P

Analysis Batch: 23DSF022W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-50374-1	MOANALUA WELLS	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-50374-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-50374-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-50374-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
23DSF022WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23DSF022WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J5F022WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J8F022WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

Analysis Batch: 23VG39F05

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-50374-1	MOANALUA WELLS	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-50374-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-50374-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-50374-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	

QC Association Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-50374-2

Subcontract (Continued)

Analysis Batch: 23VG39F05 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-50374-5	TB MOANALUA WELLS	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-50374-6	TB AIEA GULCH WELLS PUMP 2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-50374-7	TB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-50374-8	TB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VG39F05B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VG39F05L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23F086-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23F086-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-41086_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-50374-1	MOANALUA WELLS	Total/NA	Drinking Water	EPA_625	
380-50374-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	EPA_625	
380-50374-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	EPA_625	
380-50374-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	EPA_625	
107272-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
107272-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
107272-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-50374-1

Date Collected: 06/05/23 09:59

Matrix: Drinking Water

Date Received: 06/07/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-41086_P			06/09/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41086	YC		06/22/23 22:32
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39F05	SCerva		06/10/23 05:32
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSF022W	SDees		06/17/23 22:59

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-50374-2

Date Collected: 06/05/23 11:42

Matrix: Drinking Water

Date Received: 06/07/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-41086_P			06/09/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41086	YC		06/23/23 00:18
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39F05	SCerva		06/10/23 07:20
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSF022W	SDees		06/17/23 23:17

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-50374-3

Date Collected: 06/05/23 11:05

Matrix: Drinking Water

Date Received: 06/07/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-41086_P			06/09/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41086	YC		06/23/23 02:05
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39F05	SCerva		06/10/23 07:55
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSF022W	SDees		06/17/23 23:36

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-50374-4

Date Collected: 06/05/23 10:33

Matrix: Drinking Water

Date Received: 06/07/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-41086_P			06/09/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41086	YC		06/23/23 03:51
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39F05	SCerva		06/10/23 08:31
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSF022W	SDees		06/17/23 23:54

Lab Chronicle

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-50374-5

Date Collected: 06/05/23 09:59

Matrix: Water

Date Received: 06/07/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39F05	SCerva		06/10/23 09:07

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-50374-6

Date Collected: 06/05/23 11:42

Matrix: Water

Date Received: 06/07/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39F05	SCerva		06/10/23 09:43

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-50374-7

Date Collected: 06/05/23 11:05

Matrix: Water

Date Received: 06/07/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39F05	SCerva		06/10/23 10:19

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-50374-8

Date Collected: 06/05/23 10:33

Matrix: Water

Date Received: 06/07/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39F05	SCerva		06/10/23 10:55

Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806

Method Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Method	Method Description	Protocol	Laboratory
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
8015	8015 - TPH DRO/ORO	EPA	
8015B	SW846 8015B Gasoline Range Organics	SW846	

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806

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Sample Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-50374-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-50374-1	MOANALUA WELLS	Drinking Water	06/05/23 09:59	06/07/23 10:00
380-50374-2	AIEA GULCH WELLS PUMP 2	Drinking Water	06/05/23 11:42	06/07/23 10:00
380-50374-3	AIEA WELLS PUMPS 1&2 (260) P2	Drinking Water	06/05/23 11:05	06/07/23 10:00
380-50374-4	HALAWA WELLS UNITS 1 & 2 P1	Drinking Water	06/05/23 10:33	06/07/23 10:00
380-50374-5	TB MOANALUA WELLS	Water	06/05/23 09:59	06/07/23 10:00
380-50374-6	TB AIEA GULCH WELLS PUMP 2	Water	06/05/23 11:42	06/07/23 10:00
380-50374-7	TB AIEA WELLS PUMPS 1&2 (260) P2	Water	06/05/23 11:05	06/07/23 10:00
380-50374-8	TB HALAWA WELLS UNITS 1 & 2 P1	Water	06/05/23 10:33	06/07/23 10:00

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3051 Fujita Street
 Torrance, CA 90505
 Tel: (310)-618-8889

Date: 07-19-2023
 EMAX Batch No.: 23F086

Attn: Jackie Contreras

Eurofins Eaton Analytical
 750 Royal Oaks Dr., Suite 100
 Monrovia, CA 91016-3629

Subject: Laboratory Report
 Project: 380-50374

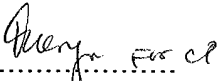
Enclosed is the Laboratory report for samples received on 06/09/23.
 The data reported relate only to samples listed below :

Sample ID	Control #	Co1 Date	Matrix	Analysis
380-50374-1	F086-01	06/05/23	WATER	TPH GASOLINE TPH
380-50374-2	F086-02	06/05/23	WATER	TPH GASOLINE TPH
380-50374-3	F086-03	06/05/23	WATER	TPH GASOLINE TPH
380-50374-4	F086-04	06/05/23	WATER	TPH GASOLINE TPH
380-50374-5	F086-05	06/05/23	WATER	TPH GASOLINE
380-50374-6	F086-06	06/05/23	WATER	TPH GASOLINE
380-50374-7	F086-07	06/05/23	WATER	TPH GASOLINE
380-50374-8	F086-08	06/05/23	WATER	TPH GASOLINE
380-50374-1MS	F086-01M	06/05/23	WATER	TPH GASOLINE
380-50374-1MSD	F086-01S	06/05/23	WATER	TPH GASOLINE

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,



 Caspar J. Pang
 Laboratory Director

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EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-24
 ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
 California ELAP Accredited Certificate Number 2672

Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PI#:	Arada, Rachelle	Carrier (Tracking No.):	380-57172.1						
Client Contact:		Phone:	Rachelle.Arada@et.eurofins.com	State of Origin:	Hawaii						
Shipping/Receiving		E-Mail:	Rachelle.Arada@et.eurofins.com	Page:	Page 1 of 1						
Company:		Accreditations Required (See note):	State - Hawaii	Job #:	380-50374-1						
Address:		Due Date Requested:	6/21/2023	Preservation Codes:							
3051 Fujita Street,		TAT Requested (days):		M - Hexane N - None O - AshNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Amchlor V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)							
City:		PO #:		Other:							
Torrance		WO #:									
State, Zip:		Project #:	38001111								
CA, 90505		SSOW#:									
Phone:											
Email:											
Project Name:											
RED-HILL											
Site:											
Honolulu BWS Sites											
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Swab, On-water, Oil, etc.)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (8015 Gas (Purgeable) LL (EAL) 8015 Gas	SUB (8015 LL DROM/RO/PS/FR) 8015 LL	SUB (8015 LL DROM/RO/PS/FR) 8015 LL	Total Number of Containers	Special Instructions/Note:
MOANALUA WELLS (380-50374-1)	6/5/23	09:59 Hawaiian	Water	Water	X	X	X	X	X	6	See Attached Instructions
AIEA GULCH WELLS PUMP 2 (380-50374-2)	6/5/23	11:42 Hawaiian	Water	Water	X	X	X	X	X	6	See Attached Instructions
AIEA WELLS PUMPS 1&2 (260) P2 (380-50374-3)	6/5/23	11:05 Hawaiian	Water	Water	X	X	X	X	X	6	See Attached Instructions
HALAWA WELLS UNITS 1 & 2 P1 (380-50374-4)	6/5/23	10:33 Hawaiian	Water	Water	X	X	X	X	X	6	See Attached Instructions
TB MOANALUA WELLS (380-50374-5)	6/5/23	09:59 Hawaiian	Water	Water	X	X	X	X	X	2	See Attached Instructions
TB AIEA GULCH WELLS PUMP 2 (380-50374-6)	6/5/23	11:42 Hawaiian	Water	Water	X	X	X	X	X	2	See Attached Instructions
TB AIEA WELLS PUMPS 1&2 (260) P2 (380-50374-7)	6/5/23	11:05 Hawaiian	Water	Water	X	X	X	X	X	2	See Attached Instructions
TB HALAWA WELLS UNITS 1 & 2 P1 (380-50374-8)	6/5/23	10:33 Hawaiian	Water	Water	X	X	X	X	X	2	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify)
 Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: *WDO* Date: *6/9/23*
 Relinquished by: *WDO* Date: *6/9/23*
 Relinquished by: _____ Date: _____

Method of Shipment: _____
 Date/Time: *6/9/23 1100*
 Company: *EMAX*
 Date/Time: _____
 Company: _____
 Date/Time: _____
 Company: _____

Cooler Temperature(s) °C and Other Remarks: *S-8/S-6* **CF: -0.2** **Page 2 of 50**
 Ver: 06/08/2021





Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others <input checked="" type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery	Airbill / Tracking Number	ECN 23F086 Recipient Dereck Sholl Date 06/09/23 Time 11:00
--	---------------------------	--

COC INSPECTION

<input checked="" type="checkbox"/> Client Name	<input checked="" type="checkbox"/> Client PM/FC	<input checked="" type="checkbox"/> Sampler Name	<input checked="" type="checkbox"/> Sampling Date/Time	<input checked="" type="checkbox"/> Sample ID	<input checked="" type="checkbox"/> Matrix
<input checked="" type="checkbox"/> Address	<input checked="" type="checkbox"/> Tel # / Fax #	<input type="checkbox"/> Courier Signature	<input checked="" type="checkbox"/> Analysis Required	<input type="checkbox"/> Preservative (if any)	<input checked="" type="checkbox"/> TAT
Safety Issues (if any)	<input type="checkbox"/> High concentrations expected	<input type="checkbox"/> From Superfund Site	<input type="checkbox"/> Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition correction	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging factor: -0.2	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures	<input checked="" type="checkbox"/> Cooler 1 5.8/5.6 °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
(Cool, ≤6 °C but not frozen)	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
Thermometer: A-S/N 221052760	B-S/N 210760237	C-S/N _____	D-S/N _____

Comments: Temperature is out of range. PM was informed IMMEDIATELY.
 Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1-4	5, 6, 11, 12, 17, 18, 23, 24	D1	JPS/JPS not on label	R1
5-8	25, 27, 29-32	D22	2nd date reads: 6/1/23	R8
9	33-36	D9	ID: 380-50463-1 6/8/23 9:30	R8
<i>MB 6/9/23</i>				

pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: **(*) All vial labels read unpreserved, 2 vials read for radon, 2 vials**
 SAMPLE MATRIX IS DRINKING WATER? YES NO **read for tritium.**

- LEGEND:**
- | | | |
|--|---|--|
| <p>Code Description- Sample Management</p> <p>(D1) Analysis is not indicated in COC label</p> <p>D2 Analysis mismatch COC vs label</p> <p>D3 Sample ID mismatch COC vs label</p> <p>D4 Sample ID is not indicated in _____</p> <p>D5 Container -[improper] [leaking] [broken]</p> <p>D6 Date/Time is not indicated in _____</p> <p>D7 Date/Time mismatch COC vs label</p> <p>D8 Sample listed in COC is not received</p> <p>(D9) Sample received is not listed in COC</p> <p>D10 No initial/date on corrections in COC/label</p> <p>D11 Container count mismatch COC vs received</p> <p>D12 Container size mismatch COC vs received</p> | <p>Code Description-Sample Management</p> <p>D13 Out of Holding Time</p> <p>D14 Bubble is >6mm</p> <p>D15 No trip blank in cooler</p> <p>D16 Preservation not indicated in _____</p> <p>D17 Preservation mismatch COC vs label</p> <p>D18 Insufficient chemical preservative</p> <p>D19 Insufficient Sample</p> <p>D20 No filtration info for dissolved analysis</p> <p>D21 No sample for moisture determination</p> <p>(D22) 2nd date on label is incorrect</p> <p>D23 _____</p> <p>D24 _____</p> | <p><input type="checkbox"/> Continue to next page.</p> <p>Code Description-Sample Management</p> <p>R1 Proceed as indicated in <input type="checkbox"/> COC <input type="checkbox"/> Label</p> <p>R2 Refer to attached instruction</p> <p>R3 Cancel the analysis</p> <p>R4 Use vial with smallest bubble first</p> <p>R5 Log-in with latest sampling date and time ± 1 min</p> <p>R6 Adjust pH as necessary</p> <p>R7 Filter and preserved as necessary</p> <p>R8 _____</p> <p>R9 _____</p> <p>R10 _____</p> <p>R11 _____</p> <p>R12 _____</p> |
|--|---|--|

REVIEWS:

Sample Labeling Maria	SRF [Signature]	PM [Signature]
Date 06/09/23	Date 6/9/23	Date 6/9/23

Re: 23F086 (380-50463) - SAMPLES TO WRONG LAB

Cecilia Chavez

Fri 6/9/2023 4:58 PM

To: Richard Beauvil <RBeauvil@emaxlabs.com>

Can you please attach this email to the folder.

Thanks

Cecilia Chavez

*Sample Receiving Supervisor***EMAX Laboratories, Inc.****310-618-8889 X 135**

From: Richard Beauvil <RBeauvil@emaxlabs.com>**Sent:** Friday, June 9, 2023 4:49 PM**To:** Theodore Ngo <Theodore.Ngo@et.eurofinsus.com>; Rosalynn Dang

<Rosalynn.Dang@et.eurofinsus.com>; Rachelle Arada <Rachelle.Arada@et.eurofinsus.com>; Joseph

Sanchez <Joseph.Sanchez@et.eurofinsus.com>; EEA - CA - Sample Control <EEA-CA-

SampleControl@et.eurofinsus.com>; Cecilia Chavez <CChavez@emaxlabs.com>

Cc: Jennifer Baw <JenniferB@emaxlabs.com>; Michelle Do <Michelle.Do@et.eurofinsus.com>; Kathleen

Robb <Kathleen.Robb@et.eurofinsus.com>

Subject: Re: 23F086 (380-50463) - SAMPLES TO WRONG LAB

Theo,

We will have the sample ready for you on Monday. Please have the driver ask for Cecilia.

Thank you.

Richard M. Beauvil

Project Manager/Safety Officer

3051 Fujita Street

Torrance, CA 90505

Tel: 310-618-8889 X118

rbeauvil@emaxlabs.com**EMAX** is interested in your feedback; please provide your comments to:customerservice@emaxlabs.com**EMAX Holidays Schedule Update:****MEMORIAL DAY: 05/29/23 (Monday)**

From: Theodore Ngo <Theodore.Ngo@et.eurofinsus.com>**Sent:** Friday, June 9, 2023 4:43 PM**To:** Rosalynn Dang <Rosalynn.Dang@et.eurofinsus.com>; Rachelle Arada

REPORT ID: 23F086 <RBeauvil@emaxlabs.com>; Joseph Sanchez <Joseph.Sanchez@et.eurofinsus.com>; EEA - CA - Sample Control <EEA-CA-

<Joseph.Sanchez@et.eurofinsus.com>; EEA - CA - Sample Control <EEA-CA-

Cc: Jennifer Baw <JenniferB@emaxlabs.com>; Michelle Do <Michelle.Do@et.eurofinsus.com>; Kathleen Robb <Kathleen.Robb@et.eurofinsus.com>
Subject: RE: 23F086 (380-50463) - SAMPLES TO WRONG LAB

I'll set it up for Monday.

From: Rosalynn Dang <Rosalynn.Dang@et.eurofinsus.com>
Sent: Friday, June 9, 2023 4:43 PM
To: Rachelle Arada <Rachelle.Arada@et.eurofinsus.com>; Richard Beauvil <RBeauvil@emaxlabs.com>; Joseph Sanchez <Joseph.Sanchez@et.eurofinsus.com>; EEA - CA - Sample Control <EEA-CA-SampleControl@et.eurofinsus.com>
Cc: Jennifer Baw <JenniferB@emaxlabs.com>; Michelle Do <Michelle.Do@et.eurofinsus.com>; Kathleen Robb <Kathleen.Robb@et.eurofinsus.com>
Subject: RE: 23F086 (380-50463) - SAMPLES TO WRONG LAB
Importance: High

Joe/Theo: arrange a pick-up of the tritium and radon sample for 380-50463. Tritium will need to go to St. Louis. Radon goes to SB.

Sincerely,

Rosalynn Dang
Eurofins Eaton Analytical, LLC
Senior Project Manager

Main Line: +1 626-386-1100
Direct Line: +1 626-386-1250
Email: [Rosalynn.Dang@ET.EurofinsUS.com]Rosalynn.Dang@ET.EurofinsUS.com

Please note that our standard [Terms and Conditions](#) apply to the prices quoted.

From: Rachelle Arada <Rachelle.Arada@et.eurofinsus.com>
Sent: Friday, June 9, 2023 4:39 PM
To: Richard Beauvil <RBeauvil@emaxlabs.com>; Joseph Sanchez <Joseph.Sanchez@et.eurofinsus.com>; EEA - CA - Sample Control <EEA-CA-SampleControl@et.eurofinsus.com>; Rosalynn Dang <Rosalynn.Dang@et.eurofinsus.com>
Cc: Jennifer Baw <JenniferB@emaxlabs.com>; Michelle Do <Michelle.Do@et.eurofinsus.com>; Kathleen Robb <Kathleen.Robb@et.eurofinsus.com>
Subject: RE: 23F086 (380-50463)

Theo, can you please find out what happened here?

Rosalynn, 380-50463 is your job, see email from Emax below.

Sincerely,

Rachelle Arada
Project Manager

Office: +1 626 386 1106
Mobile: +1 626 419 6014

Email: Rachelle.Arada@ET.EurofinsUS.com
Website: www.EurofinsUS.com/Eaton

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From: Richard Beauvil <RBeauvil@emaxlabs.com>
Sent: Friday, June 9, 2023 4:34 PM
To: Rachelle Arada <Rachelle.Arada@et.eurofinsus.com>; Jaclyn Contreras <Jaclyn.contreras@et.eurofinsus.com>; Joseph Sanchez <Joseph.Sanchez@et.eurofinsus.com>
Cc: Jennifer Baw <JenniferB@emaxlabs.com>; Michelle Do <Michelle.Do@et.eurofinsus.com>
Subject: 23F086 (380-50463)

EXTERNAL EMAIL*

Hi Rachelle/Michelle,

We received some extra vials ID: 380-50463-1 not requested on the COC. Looks like for radon and tritium analyses. Do you want us to just ignore them?

Richard M. Beauvil
Project Manager/Safety Officer
3051 Fujita Street
Torrance, CA 90505
Tel: 310-618-8889 X118
rbeauvil@emaxlabs.com

EMAX is interested in your feedback; please provide your comments to:
customerservice@emaxlabs.com

EMAX Holidays Schedule Update:

MEMORIAL DAY: 05/29/23 (Monday)

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-50374

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

SDG#: 23F086



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-50374

SDG : 23F086

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

A total of eight(8) water samples were received on 06/09/23 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VG39F05B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. VG39F05L/VG39F05C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Gasoline was within MS QC limits in F086-01M/F086-01S. Refer to Matrix QC summary form for details.

Surrogate

Surrogate was added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

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SAMPLE RESULTS

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL Date Collected: 06/05/23 09:59
Project : 380-50374 Date Received: 06/09/23
Batch No. : 23F086 Date Extracted: 06/10/23 05:32
Sample ID : 380-50374-1 Date Analyzed: 06/10/23 05:32
Lab Samp ID: F086-01 Dilution Factor: 1
Lab File ID: EF09026A Matrix: WATER
Ext Btch ID: 23VG39F05 % Moisture: NA
Calib. Ref.: EF09025A Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
-----	-----	-----	-----	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
-----	-----	-----	-----	-----
Bromofluorobenzene	0.0297	0.0400	74	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL Date Collected: 06/05/23 11:42
Project : 380-50374 Date Received: 06/09/23
Batch No. : 23F086 Date Extracted: 06/10/23 07:20
Sample ID : 380-50374-2 Date Analyzed: 06/10/23 07:20
Lab Samp ID: F086-02 Dilution Factor: 1
Lab File ID: EF09029A Matrix: WATER
Ext Btch ID: 23VG39F05 % Moisture: NA
Calib. Ref.: EF09025A Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0297	0.0400	74	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 11:05
Project    : 380-50374                   Date Received: 06/09/23
Batch No.  : 23F086                       Date Extracted: 06/10/23 07:55
Sample ID  : 380-50374-3                 Date Analyzed: 06/10/23 07:55
Lab Samp ID: F086-03                     Dilution Factor: 1
Lab File ID: EF09030A                     Matrix: WATER
Ext Btch ID: 23VG39F05                   % Moisture: NA
Calib. Ref.: EF09025A                     Instrument ID: 39
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0296	0.0400	74	60-140

Notes:

Parameter H-C Range

Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by : SCerva

Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 06/05/23 10:33
Project     : 380-50374                      Date Received: 06/09/23
Batch No.   : 23F086                         Date Extracted: 06/10/23 08:31
Sample ID   : 380-50374-4                   Date Analyzed: 06/10/23 08:31
Lab Samp ID: F086-04                        Dilution Factor: 1
Lab File ID: EF09031A                       Matrix: WATER
Ext Btch ID: 23VG39F05                     % Moisture: NA
Calib. Ref.: EF09025A                      Instrument ID: 39
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
-----	-----	-----	-----	
GASOLINE	ND	0.020	0.010	

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
-----	-----	-----	-----	-----
Bromofluorobenzene	0.0301	0.0400	75	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B
 TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 09:59
Project     : 380-50374                   Date Received: 06/09/23
Batch No.   : 23F086                       Date Extracted: 06/10/23 09:07
Sample ID   : 380-50374-5                 Date Analyzed: 06/10/23 09:07
Lab Samp ID: F086-05                       Dilution Factor: 1
Lab File ID: EF09032A                       Matrix: WATER
Ext Btch ID: 23VG39F05                     % Moisture: NA
Calib. Ref.: EF09025A                       Instrument ID: 39
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
-----	-----	-----	-----	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
-----	-----	-----	-----	-----
Bromofluorobenzene	0.0303	0.0400	76	60-140
-----	-----	-----	-----	-----

Notes:

Parameter H-C Range
 Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
 Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 11:42
Project    : 380-50374                   Date Received: 06/09/23
Batch No.  : 23F086                       Date Extracted: 06/10/23 09:43
Sample ID  : 380-50374-6                 Date Analyzed: 06/10/23 09:43
Lab Samp ID: F086-06                     Dilution Factor: 1
Lab File ID: EF09033A                     Matrix: WATER
Ext Btch ID: 23VG39F05                   % Moisture: NA
Calib. Ref.: EF09025A                     Instrument ID: 39
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
-----	-----	-----	-----	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
-----	-----	-----	-----	-----
Bromofluorobenzene	0.0286	0.0400	72	60-140
-----	-----	-----	-----	-----

Notes:

Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 10:33
Project    : 380-50374                   Date Received: 06/09/23
Batch No.  : 23F086                       Date Extracted: 06/10/23 10:55
Sample ID  : 380-50374-8                 Date Analyzed: 06/10/23 10:55
Lab Samp ID: F086-08                     Dilution Factor: 1
Lab File ID: EF09035A                     Matrix: WATER
Ext Btch ID: 23VG39F05                    % Moisture: NA
Calib. Ref.: EF09025A                     Instrument ID: 39
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0288	0.0400	72	60-140

Notes:

Parameter H-C Range

Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by : SCerva

Analyzed by : SCerva

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QC SUMMARIES

METHOD 5030B/8015B
 TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

```

=====
Client      : EUROFINS EATON ANALYTICAL    Date Collected: 06/09/23 16:54
Project     : 380-50374                    Date Received: 06/09/23
Batch No.   : 23F086                       Date Extracted: 06/09/23 16:54
Sample ID   : MBLK1W                       Date Analyzed: 06/09/23 16:54
Lab Samp ID : VG39F05B                     Dilution Factor: 1
Lab File ID : EF09005A                     Matrix: WATER
Ext Btch ID : 23VG39F05                    % Moisture: NA
Calib. Ref.: EF09003A                      Instrument ID: 39
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0318	0.0400	79	60-140

Notes:

Parameter H-C Range
 Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
 Prepared by : SCerva Analyzed by : SCerva

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-50374
BATCH NO. : 23F086
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39F05B	VG39F05L	VG39F05C
LAB FILE ID	: EF09005A	EF09006A	EF09007A
DATE PREPARED	: 06/09/23 16:54	06/09/23 17:32	06/09/23 18:08
DATE ANALYZED	: 06/09/23 16:54	06/09/23 17:32	06/09/23 18:08
PREP BATCH	: 23VG39F05	23VG39F05	23VG39F05
CALIBRATION REF:	EF09003A	EF09003A	EF09003A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.428	86	0.500	0.450	90	5	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0396	99	0.0400	0.0383	96	70-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-50374
BATCH NO. : 23F086
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-50374-1	380-50374-1MS	380-50374-1MSD
LAB SAMPLE ID	: F086-01	F086-01M	F086-01S
LAB FILE ID	: EF09026A	EF09027A	EF09028A
DATE PREPARED	: 06/10/23 05:32	06/10/23 06:08	06/10/23 06:44
DATE ANALYZED	: 06/10/23 05:32	06/10/23 06:08	06/10/23 06:44
PREP BATCH	: 23VG39F05	23VG39F05	23VG39F05
CALIBRATION REF:	EF09025A	EF09025A	EF09025A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.436	87	0.500	0.498	100	13	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0404	101	0.0400	0.0409	102	60-140

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-50374

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23F086

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-50374

SDG : 23F086

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 06/09/23 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSF022WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. DSF022WL/DSF022WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-50374

SDG : 23F086

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 06/09/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSF022WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. J5F022WL/J5F022WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-50374

SDG : 23F086

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 06/09/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSF022WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. J8F022WL/J8F022WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINIS EATON ANALYTICAL
Project : 380-50374

SDG NO. : 23F086
Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
									WATER
MBLK1W	DSF022WB	1	NA	06/17/2320:49	06/14/2315:00	LF16072A	LF16063A	23DSF022W	Method Blank
LCS1W	J5F022WL	1	NA	06/17/2321:44	06/14/2315:00	LF16075A	LF16063A	23DSF022W	Lab Control Sample (LCS)
LCD1W	J5F022WC	1	NA	06/17/2322:03	06/14/2315:00	LF16076A	LF16063A	23DSF022W	LCS Duplicate
380-50374-1	F086-01	1	NA	06/17/2322:59	06/14/2315:00	LF16079A	LF16063A	23DSF022W	Field Sample
380-50374-2	F086-02	1	NA	06/17/2323:17	06/14/2315:00	LF16080A	LF16063A	23DSF022W	Field Sample
380-50374-3	F086-03	1	NA	06/17/2323:36	06/14/2315:00	LF16081A	LF16063A	23DSF022W	Field Sample
380-50374-4	F086-04	1	NA	06/17/2323:54	06/14/2315:00	LF16082A	LF16063A	23DSF022W	Field Sample

FN - Filename
% Moist - Percent Moisture



LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-50374

SDG NO. : 23F086
Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
	WATER								
MBLK1W	DSF022WB	1	NA	06/17/2320:49	06/14/2315:00	LF16072A	LF16064A	23DSF022W	Method Blank
LCS1W	J8F022WL	1	NA	06/17/2322:21	06/14/2315:00	LF16077A	LF16064A	23DSF022W	Lab Control Sample (LCS)
LCD1W	J8F022WC	1	NA	06/17/2322:40	06/14/2315:00	LF16078A	LF16064A	23DSF022W	LCS Duplicate
380-50374-1	F086-01	1	NA	06/17/2322:59	06/14/2315:00	LF16079A	LF16064A	23DSF022W	Field Sample
380-50374-2	F086-02	1	NA	06/17/2323:17	06/14/2315:00	LF16080A	LF16064A	23DSF022W	Field Sample
380-50374-3	F086-03	1	NA	06/17/2323:36	06/14/2315:00	LF16081A	LF16064A	23DSF022W	Field Sample
380-50374-4	F086-04	1	NA	06/17/2323:54	06/14/2315:00	LF16082A	LF16064A	23DSF022W	Field Sample

FN - Filename
% Moist - Percent Moisture

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SAMPLE RESULTS

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 09:59
Project     : 380-50374                   Date Received: 06/09/23
Batch No.   : 23F086                       Date Extracted: 06/14/23 15:00
Sample ID   : 380-50374-1                 Date Analyzed: 06/17/23 22:59
Lab Samp ID : 23F086-01                   Dilution Factor: 1
Lab File ID : LF16079A                     Matrix: WATER
Ext Btch ID : 23DSF022W                   % Moisture: NA
Calib. Ref.: LF16063A                     Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.056	0.028	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.468	0.555	84	60-130
Hexacosane	0.109	0.139	79	60-130

Notes:

RL : Reporting Limit
 Parameter H-C Range
 JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 900ml Final Volume : 5ml
 Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 09:59
Project     : 380-50374                 Date Received: 06/09/23
Batch No.   : 23F086                   Date Extracted: 06/14/23 15:00
Sample ID   : 380-50374-1              Date Analyzed: 06/17/23 22:59
Lab Samp ID : 23F086-01                 Dilution Factor: 1
Lab File ID : LF16079A                  Matrix: WATER
Ext Btch ID: 23DSF022W                 % Moisture: NA
Calib. Ref.: LF16064A                  Instrument ID: D5
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.056	0.028	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.468	0.555	84	60-130
Hexacosane	0.109	0.139	79	60-130

Notes:

RL : Reporting Limit
 Parameter H-C Range
 JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 900ml Final Volume : 5ml
 Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 11:42
Project     : 380-50374                 Date Received: 06/09/23
Batch No.   : 23F086                   Date Extracted: 06/14/23 15:00
Sample ID   : 380-50374-2              Date Analyzed: 06/17/23 23:17
Lab Samp ID : 23F086-02                Dilution Factor: 1
Lab File ID : LF16080A                 Matrix: WATER
Ext Btch ID : 23DSF022W                % Moisture: NA
Calib. Ref.: LF16062A                 Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.027	0.014	
Motor Oil	ND	0.055	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.434	0.545	80	60-130
Hexacosane	0.104	0.136	77	60-130

Notes:

Parameter H-C Range
Diesel C10-C24
Motor Oil C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 920ml Final Volume : 5ml
Prepared by : RGalán Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 11:42
Project     : 380-50374                 Date Received: 06/09/23
Batch No.   : 23F086                   Date Extracted: 06/14/23 15:00
Sample ID   : 380-50374-2              Date Analyzed: 06/17/23 23:17
Lab Samp ID : 23F086-02                Dilution Factor: 1
Lab File ID : LF16080A                 Matrix: WATER
Ext Btch ID : 23DSF022W                % Moisture: NA
Calib. Ref.: LF16063A                 Instrument ID: D5
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.055	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.434	0.545	80	60-130
Hexacosane	0.104	0.136	77	60-130

Notes:

RL : Reporting Limit
 Parameter H-C Range
 JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 920ml Final Volume : 5ml
 Prepared by : RGalán Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 11:42
Project     : 380-50374                 Date Received: 06/09/23
Batch No.   : 23F086                   Date Extracted: 06/14/23 15:00
Sample ID   : 380-50374-2              Date Analyzed: 06/17/23 23:17
Lab Samp ID : 23F086-02                 Dilution Factor: 1
Lab File ID : LF16080A                  Matrix: WATER
Ext Btch ID : 23DSF022W                 % Moisture: NA
Calib. Ref.: LF16064A                   Instrument ID: D5
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.055	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.434	0.545	80	60-130
Hexacosane	0.104	0.136	77	60-130

Notes:

RL : Reporting Limit
 Parameter H-C Range
 JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 920ml Final Volume : 5ml
 Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 11:05
Project     : 380-50374                   Date Received: 06/09/23
Batch No.   : 23F086                       Date Extracted: 06/14/23 15:00
Sample ID   : 380-50374-3                 Date Analyzed: 06/17/23 23:36
Lab Samp ID : 23F086-03                   Dilution Factor: 1
Lab File ID : LF16081A                    Matrix: WATER
Ext Btch ID : 23DSF022W                   % Moisture: NA
Calib. Ref.: LF16062A                     Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
Diesel	ND	0.027	0.013		
Motor Oil	ND	0.053	0.027		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.434	0.530	82	60-130	
Hexacosane	0.114	0.132	86	60-130	

Notes:

Parameter H-C Range
Diesel C10-C24
Motor Oil C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 940ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 06/05/23 11:05
Project     : 380-50374                      Date Received: 06/09/23
Batch No.   : 23F086                          Date Extracted: 06/14/23 15:00
Sample ID   : 380-50374-3                    Date Analyzed: 06/17/23 23:36
Lab Samp ID : 23F086-03                      Dilution Factor: 1
Lab File ID : LF16081A                       Matrix: WATER
Ext Btch ID : 23DSF022W                     % Moisture: NA
Calib. Ref.: LF16063A                       Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.053	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.434	0.530	82	60-130
Hexacosane	0.114	0.132	86	60-130

Notes:

RL : Reporting Limit
 Parameter H-C Range
 JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 940ml Final Volume : 5ml
 Prepared by : RGalán Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 10:33
Project     : 380-50374                   Date Received: 06/09/23
Batch No.   : 23F086                       Date Extracted: 06/14/23 15:00
Sample ID   : 380-50374-4                 Date Analyzed: 06/17/23 23:54
Lab Samp ID : 23F086-04                   Dilution Factor: 1
Lab File ID : LF16082A                     Matrix: WATER
Ext Btch ID : 23DSF022W                   % Moisture: NA
Calib. Ref.: LF16062A                     Instrument ID: D5
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.027	0.013	
Motor Oil	ND	0.053	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.439	0.530	83	60-130
Hexacosane	0.113	0.132	85	60-130

Notes:

```

Parameter      H-C Range
Diesel          C10-C24
Motor Oil       C24-C36
  
```

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

```

Sample Amount   : 940ml                      Final Volume : 5ml
Prepared by     : RGalán                      Analyzed by  : SDeeso
  
```

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 10:33
Project     : 380-50374                 Date Received: 06/09/23
Batch No.   : 23F086                    Date Extracted: 06/14/23 15:00
Sample ID   : 380-50374-4              Date Analyzed: 06/17/23 23:54
Lab Samp ID : 23F086-04                Dilution Factor: 1
Lab File ID : LF16082A                 Matrix: WATER
Ext Btch ID : 23DSF022W                % Moisture: NA
Calib. Ref.: LF16063A                 Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.053	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.439	0.530	83	60-130
Hexacosane	0.113	0.132	85	60-130

Notes:

RL : Reporting Limit
 Parameter H-C Range
 JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 940ml Final Volume : 5ml
 Prepared by : RGalan Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/05/23 10:33
Project     : 380-50374                 Date Received: 06/09/23
Batch No.   : 23F086                    Date Extracted: 06/14/23 15:00
Sample ID   : 380-50374-4              Date Analyzed: 06/17/23 23:54
Lab Samp ID : 23F086-04                 Dilution Factor: 1
Lab File ID : LF16082A                  Matrix: WATER
Ext Btch ID: 23DSF022W                  % Moisture: NA
Calib. Ref.: LF16064A                   Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.053	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.439	0.530	83	60-130
Hexacosane	0.113	0.132	85	60-130

Notes:

RL : Reporting Limit
 Parameter H-C Range
 JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 940ml Final Volume : 5ml
 Prepared by : RGalán Analyzed by : SDeeso

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QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/14/23 15:00
Project     : 380-50374                   Date Received: 06/14/23
Batch No.   : 23F086                       Date Extracted: 06/14/23 15:00
Sample ID   : MBLK1W                       Date Analyzed: 06/17/23 20:49
Lab Samp ID : DSF022WB                     Dilution Factor: 1
Lab File ID : LF16072A                     Matrix: WATER
Ext Btch ID : 23DSF022W                   % Moisture: NA
Calib. Ref.: LF16062A                     Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.025	0.012	
Motor Oil	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.459	0.500	92	60-130
Hexacosane	0.0972	0.125	78	60-130

Notes:

Parameter H-C Range
Diesel C10-C24
Motor Oil C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml Final Volume : 5ml
Prepared by : RGalan Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-50374
BATCH NO. : 23F086
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSF022WB	DSF022WL	DSF022WC
LAB FILE ID	: LF16072A	LF16073A	LF16074A
DATE PREPARED	: 06/14/23 15:00	06/14/23 15:00	06/14/23 15:00
DATE ANALYZED	: 06/17/23 20:49	06/17/23 21:07	06/17/23 21:26
PREP BATCH	: 23DSF022W	23DSF022W	23DSF022W
CALIBRATION REF:	LF16062A	LF16062A	LF16062A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QLLimit (%)	MaxRPD (%)
Diesel	ND	2.50	2.24	90	2.50	2.28	91	2	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QLLimit (%)
Bromobenzene	0.500	0.427	85	0.500	0.437	87	60-130
Hexacosane	0.125	0.115	92	0.125	0.117	94	60-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 06/14/23 15:00
Project     : 380-50374                   Date Received: 06/14/23
Batch No.   : 23F086                       Date Extracted: 06/14/23 15:00
Sample ID   : MBLK1W                       Date Analyzed: 06/17/23 20:49
Lab Samp ID : DSF022WB                     Dilution Factor: 1
Lab File ID : LF16072A                     Matrix: WATER
Ext Btch ID: 23DSF022W                    % Moisture: NA
Calib. Ref.: LF16063A                     Instrument ID: D5
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.459	0.500	92	60-130
Hexacosane	0.0972	0.125	78	60-130

Notes:

RL : Reporting Limit
 Parameter H-C Range
 JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml Final Volume : 5ml
 Prepared by : RGalán Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-50374
BATCH NO. : 23F086
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSF022WB	J5F022WL	J5F022WC
LAB FILE ID	: LF16072A	LF16075A	LF16076A
DATE PREPARED	: 06/14/23 15:00	06/14/23 15:00	06/14/23 15:00
DATE ANALYZED	: 06/17/23 20:49	06/17/23 21:44	06/17/23 22:03
PREP BATCH	: 23DSF022W	23DSF022W	23DSF022W
CALIBRATION REF:	LF16063A	LF16063A	LF16063A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	2.01	80	2.50	2.11	84	5	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.429	86	0.500	0.436	87	60-130
Hexacosane	0.125	0.0942	75	0.125	0.108	86	60-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 06/14/23 15:00
Project     : 380-50374                      Date Received: 06/14/23
Batch No.   : 23F086                         Date Extracted: 06/14/23 15:00
Sample ID   : MBLK1W                         Date Analyzed: 06/17/23 20:49
Lab Samp ID : DSF022WB                       Dilution Factor: 1
Lab File ID : LF16072A                       Matrix: WATER
Ext Btch ID : 23DSF022W                      % Moisture: NA
Calib. Ref.: LF16064A                       Instrument ID: D5
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.459	0.500	92	60-130
Hexacosane	0.0972	0.125	78	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by : RGalán

Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-50374
BATCH NO. : 23F086
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSF022WB	J8F022WL	J8F022WC
LAB FILE ID	: LF16072A	LF16077A	LF16078A
DATE PREPARED	: 06/14/23 15:00	06/14/23 15:00	06/14/23 15:00
DATE ANALYZED	: 06/17/23 20:49	06/17/23 22:21	06/17/23 22:40
PREP BATCH	: 23DSF022W	23DSF022W	23DSF022W
CALIBRATION REF:	LF16064A	LF16064A	LF16064A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QLLimit (%)	MaxRPD (%)
JP8	ND	2.50	2.23	89	2.50	2.90	116	26	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QLLimit (%)
Bromobenzene	0.500	0.499	100	0.500	0.497	99	60-130
Hexacosane	0.125	0.106	85	0.125	0.103	82	60-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

June 23, 2023

Rachelle Arada
 Eurofins Eaton Analytical
 750 Royal Oaks Drive
 Suite 100
 Monrovia, CA 91016-

Project Name: RED-HILL Project # 38001111 Job # 380-50374-1
 Physis Project ID: 1407003-408

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 6/9/2023. A total of 4 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625.1
Disalicylidenepropanediamine by EPA 625.1
Dibenzo [a,l] Pyrene w/ PAHs by EPA 625.1

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Rachel Hansen
 714 602-5320
 Extension 203
 rachelhansen@physislabs.com



PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-408

RED-HILL Project # 38001111 Job # 380-50374-1

Total Samples: 4

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
107273	MOANALUA WELLS	380-50374-1	6/5/2023	9:59	Samplewater	Not Specified
107274	AIEA GULCH WELLS PUMP 2	380-50374-2	6/5/2023	11:42	Samplewater	Not Specified
107275	AIEA WELLS PUMPS 1&2 (260)	380-50374-3	6/5/2023	11:05	Samplewater	Not Specified
107276	HALAWA WELLS UNITS 1 & 2 P1	380-50374-4	6/5/2023	10:33	Samplewater	Not Specified

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ND

MDL is listed due to report format restrictions; it is not used in reporting. Analytical results reported are ND at the RL.

ANALYTICALS

REPORT

TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 107273-R1	MOANALUA WELLS 380-50374-1		Matrix: Samplewater					Sampled: 05-Jun-23 9:59		Received: 09-Jun-23	
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41086	09-Jun-23	22-Jun-23
Sample ID: 107274-R1	AIEA GULCH WELLS PUMP 2 380-5		Matrix: Samplewater					Sampled: 05-Jun-23 11:42		Received: 09-Jun-23	
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41086	09-Jun-23	23-Jun-23
Sample ID: 107275-R1	AIEA WELLS PUMPS 1&2 (260) 380-		Matrix: Samplewater					Sampled: 05-Jun-23 11:05		Received: 09-Jun-23	
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41086	09-Jun-23	23-Jun-23
Sample ID: 107276-R1	HALAWA WELLS UNITS 1 & 2 P1 38		Matrix: Samplewater					Sampled: 05-Jun-23 10:33		Received: 09-Jun-23	
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41086	09-Jun-23	23-Jun-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 107273-R1	MOANALUA WELLS 380-50374-1	Matrix: Samplewater					Sampled: 05-Jun-23 9:59			Received: 09-Jun-23	09-Jun-23
(d10-Acenaphthene)	EPA 625.1	% Recovery	83	1			Total		O-41086	09-Jun-23	22-Jun-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	85	1			Total		O-41086	09-Jun-23	22-Jun-23
(d12-Chrysene)	EPA 625.1	% Recovery	86	1			Total		O-41086	09-Jun-23	22-Jun-23
(d12-Perylene)	EPA 625.1	% Recovery	96	1			Total		O-41086	09-Jun-23	22-Jun-23
(d8-Naphthalene)	EPA 625.1	% Recovery	73	1			Total		O-41086	09-Jun-23	22-Jun-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	22-Jun-23



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 107274-R1	AIEA GULCH WELLS PUMP 2 380-5 Matrix: Samplewater						Sampled:	05-Jun-23 11:42	Received:	09-Jun-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	84	1			Total		O-41086	09-Jun-23	23-Jun-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	86	1			Total		O-41086	09-Jun-23	23-Jun-23
(d12-Chrysene)	EPA 625.1	% Recovery	85	1			Total		O-41086	09-Jun-23	23-Jun-23
(d12-Perylene)	EPA 625.1	% Recovery	96	1			Total		O-41086	09-Jun-23	23-Jun-23
(d8-Naphthalene)	EPA 625.1	% Recovery	74	1			Total		O-41086	09-Jun-23	23-Jun-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed	
Sample ID: 107275-R1	AIEA WELLS PUMPS 1&2 (260) 380- Matrix: Samplewater						Sampled:	05-Jun-23 11:05	Received:	09-Jun-23		
(d10-Acenaphthene)	EPA 625.1	% Recovery	83	1			Total		O-41086	09-Jun-23	23-Jun-23	
(d10-Phenanthrene)	EPA 625.1	% Recovery	86	1			Total		O-41086	09-Jun-23	23-Jun-23	
(d12-Chrysene)	EPA 625.1	% Recovery	84	1			Total		O-41086	09-Jun-23	23-Jun-23	
(d12-Perylene)	EPA 625.1	% Recovery	81	1			Total		O-41086	09-Jun-23	23-Jun-23	
(d8-Naphthalene)	EPA 625.1	% Recovery	77	1			Total		O-41086	09-Jun-23	23-Jun-23	
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23	

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 107276-R1	HALAWA WELLS UNITS 1 & 2 P1 38 Matrix: Samplewater						Sampled:	05-Jun-23 10:33	Received:	09-Jun-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	80	1			Total		O-41086	09-Jun-23	23-Jun-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	89	1			Total		O-41086	09-Jun-23	23-Jun-23
(d12-Chrysene)	EPA 625.1	% Recovery	84	1			Total		O-41086	09-Jun-23	23-Jun-23
(d12-Perylene)	EPA 625.1	% Recovery	86	1			Total		O-41086	09-Jun-23	23-Jun-23
(d8-Naphthalene)	EPA 625.1	% Recovery	74	1			Total		O-41086	09-Jun-23	23-Jun-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41086	09-Jun-23	23-Jun-23



QUALITY CONTROL REPORT

TERRA CONSULTING AURA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Sample ID: 107272-B1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-41086			Prepared: 09-Jun-23		Analyzed: 22-Jun-23			
Disalicylideneprapanediamin	Total	ND	1	0.05	0.1	µg/L							
Sample ID: 107272-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-41086			Prepared: 09-Jun-23		Analyzed: 22-Jun-23			
Disalicylideneprapanediamin	Total	26.1	1	0.05	0.1	µg/L	50	0	52	50 - 150%	PASS		
Sample ID: 107272-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-41086			Prepared: 09-Jun-23		Analyzed: 22-Jun-23			
Disalicylideneprapanediamin	Total	30.8	1	0.05	0.1	µg/L	50	0	62	50 - 150%	PASS	18	30 PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEC
							LEVEL	RESULT	% LIMITS	% LIMITS	
Sample ID: 107272-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
	Method: EPA 625.1					Batch ID: O-41086	Prepared: 09-Jun-23	Analyzed: 22-Jun-23			
(d10-Acenaphthene)	Total	95	1			% Recovery	100	95	27 - 133%	PASS	
(d10-Phenanthrene)	Total	91	1			% Recovery	100	91	43 - 129%	PASS	
(d12-Chrysene)	Total	89	1			% Recovery	100	89	52 - 144%	PASS	
(d12-Perylene)	Total	87	1			% Recovery	100	87	36 - 161%	PASS	
(d8-Naphthalene)	Total	83	1			% Recovery	100	83	25 - 125%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L					
Anthracene	Total	ND	1	0.001	0.005	µg/L					
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L					
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L					
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Biphenyl	Total	ND	1	0.001	0.005	µg/L					
Chrysene	Total	ND	1	0.001	0.005	µg/L					
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L					
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L					



Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L							
Fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Fluorene	Total	ND	1	0.001	0.005	µg/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	0.001	0.005	µg/L							
Naphthalene	Total	ND	1	0.001	0.005	µg/L							
Perylene	Total	ND	1	0.001	0.005	µg/L							
Phenanthrene	Total	ND	1	0.001	0.005	µg/L							
Pyrene	Total	ND	1	0.001	0.005	µg/L							



Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE	
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 107272-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-41086			Prepared: 09-Jun-23		Analyzed: 22-Jun-23					
(d10-Acenaphthene)	Total	87	1			% Recovery	100	0	87	27 - 133%	PASS	
(d10-Phenanthrene)	Total	111	1			% Recovery	100	0	111	43 - 129%	PASS	
(d12-Chrysene)	Total	102	1			% Recovery	100	0	102	52 - 144%	PASS	
(d12-Perylene)	Total	99	1			% Recovery	100	0	99	36 - 161%	PASS	
(d8-Naphthalene)	Total	80	1			% Recovery	100	0	80	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	48 - 120%	PASS	
2-Methylnaphthalene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	47 - 130%	PASS	
Acenaphthene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	53 - 131%	PASS	
Acenaphthylene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	43 - 140%	PASS	
Anthracene	Total	0.419	1	0.001	0.005	µg/L	0.5	0	84	58 - 135%	PASS	
Benz[a]anthracene	Total	0.692	1	0.001	0.005	µg/L	0.5	0	138	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.52	1	0.001	0.005	µg/L	0.5	0	104	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.405	1	0.001	0.005	µg/L	0.5	0	81	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.48	1	0.001	0.005	µg/L	0.5	0	96	56 - 145%	PASS	
Biphenyl	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	56 - 119%	PASS	
Chrysene	Total	0.381	1	0.001	0.005	µg/L	0.5	0	76	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.493	1	0.001	0.005	µg/L	0.5	0	99	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.552	1	0.001	0.005	µg/L	0.5	0	110	50 - 150%	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	0.505	1	0.001	0.005	µg/L	0.5	0	101	46 - 126%	PASS		
Fluoranthene	Total	0.495	1	0.001	0.005	µg/L	0.5	0	99	60 - 146%	PASS		
Fluorene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	50 - 151%	PASS		
Naphthalene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	41 - 126%	PASS		
Perylene	Total	0.477	1	0.001	0.005	µg/L	0.5	0	95	48 - 141%	PASS		
Phenanthrene	Total	0.555	1	0.001	0.005	µg/L	0.5	0	111	67 - 127%	PASS		
Pyrene	Total	0.491	1	0.001	0.005	µg/L	0.5	0	98	54 - 156%	PASS		

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Sample ID: 107272-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:			
		Method: EPA 625.1			Batch ID: O-41086			Prepared: 09-Jun-23			Analyzed: 22-Jun-23			
(d10-Acenaphthene)	Total	82	1			% Recovery	100	0	82	27 - 133%	PASS	6	30	PASS
(d10-Phenanthrene)	Total	106	1			% Recovery	100	0	106	43 - 129%	PASS	5	30	PASS
(d12-Chrysene)	Total	97	1			% Recovery	100	0	97	52 - 144%	PASS	5	30	PASS
(d12-Perylene)	Total	91	1			% Recovery	100	0	91	36 - 161%	PASS	8	30	PASS
(d8-Naphthalene)	Total	75	1			% Recovery	100	0	75	25 - 125%	PASS	6	30	PASS
1-Methylnaphthalene	Total	0.393	1	0.001	0.005	µg/L	0.5	0	79	31 - 128%	PASS	10	30	PASS
1-Methylphenanthrene	Total	0.429	1	0.001	0.005	µg/L	0.5	0	86	66 - 127%	PASS	6	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.421	1	0.001	0.005	µg/L	0.5	0	84	55 - 122%	PASS	4	30	PASS
2,6-Dimethylnaphthalene	Total	0.418	1	0.001	0.005	µg/L	0.5	0	84	48 - 120%	PASS	4	30	PASS
2-Methylnaphthalene	Total	0.409	1	0.001	0.005	µg/L	0.5	0	82	47 - 130%	PASS	6	30	PASS
Acenaphthene	Total	0.411	1	0.001	0.005	µg/L	0.5	0	82	53 - 131%	PASS	6	30	PASS
Acenaphthylene	Total	0.41	1	0.001	0.005	µg/L	0.5	0	82	43 - 140%	PASS	6	30	PASS
Anthracene	Total	0.365	1	0.001	0.005	µg/L	0.5	0	73	58 - 135%	PASS	14	30	PASS
Benz[a]anthracene	Total	0.66	1	0.001	0.005	µg/L	0.5	0	132	55 - 145%	PASS	4	30	PASS
Benzo[a]pyrene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	90	51 - 143%	PASS	2	30	PASS
Benzo[b]fluoranthene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	46 - 165%	PASS	8	30	PASS
Benzo[e]pyrene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	42 - 152%	PASS	6	30	PASS
Benzo[g,h,i]perylene	Total	0.416	1	0.001	0.005	µg/L	0.5	0	83	63 - 133%	PASS	2	30	PASS
Benzo[k]fluoranthene	Total	0.471	1	0.001	0.005	µg/L	0.5	0	94	56 - 145%	PASS	2	30	PASS
Biphenyl	Total	0.414	1	0.001	0.005	µg/L	0.5	0	83	56 - 119%	PASS	8	30	PASS
Chrysene	Total	0.37	1	0.001	0.005	µg/L	0.5	0	74	56 - 141%	PASS	3	30	PASS
Dibenz[a,h]anthracene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	55 - 150%	PASS	5	30	PASS
Dibenzo[a,l]pyrene	Total	0.529	1	0.001	0.005	µg/L	0.5	0	106	50 - 150%	PASS	4	30	PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY			PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Dibenzothiophene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	92	46 - 126%	PASS	9	30	PASS
Fluoranthene	Total	0.466	1	0.001	0.005	µg/L	0.5	0	93	60 - 146%	PASS	6	30	PASS
Fluorene	Total	0.421	1	0.001	0.005	µg/L	0.5	0	84	58 - 131%	PASS	6	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	50 - 151%	PASS	2	30	PASS
Naphthalene	Total	0.407	1	0.001	0.005	µg/L	0.5	0	81	41 - 126%	PASS	7	30	PASS
Perylene	Total	0.496	1	0.001	0.005	µg/L	0.5	0	99	48 - 141%	PASS	4	30	PASS
Phenanthrene	Total	0.536	1	0.001	0.005	µg/L	0.5	0	107	67 - 127%	PASS	4	30	PASS
Pyrene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	54 - 156%	PASS	4	30	PASS

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PHYSICS

TENTATIVELY IDENTIFIED COMPOUNDS

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Sample ID: 107273

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.2380	7.8169	1111	Anthracene-D10-	1517-22-2	92
30.2156	8.7141	1239	2,4,6-Tribromo-2,5-cyclohexadienone	20244-61-5	88

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank B1_41086

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.2699	6.4349	1111	Anthracene-D10	1517-22-2	83
No TIC Compounds met the screening criteria in this sample.					

Concentration estimated using the response for Anthracene-d10

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Sample ID: 107276

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.1772	7.5098	1111	Anthracene-D10	1517-22-2	89
81.8281	1.3424	199	4-[4-(1,1,3,3-Tetramethylbutyl)phenoxy]-2,3,5,6-tetrafluoropyridine	1000314-30-9	81
11.0710	0.7409	110	2-Furancarboxylic acid, tetrahydro-3-methyl-5-oxo-	22073-04-7	83

Concentration estimated using the response for Anthracene-d10

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Sample ID: 107274

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.7573	1.8014	1111	Anthracene-D10	1517-22-2	91
28.0956	1.0419	643	Diethyl Phthalate	84-66-2	88
11.0788	0.4269	263	5-Amino-2-methyl-2H-tetrazole	1553840	89
10.8515	0.3479	215	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	86

Concentration estimated using the response for Anthracene-d10

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Sample ID: 107275

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.2140	6.2420	1111	Anthracene-D10-	1517-22-2	90
28.0951	0.8857	158	Diethyl Phthalate	84-66-2	94
11.0700	0.6573	117	Hexanoic acid, anhydride	2051-49-2	86

Concentration estimated using the response for Anthracene-d10

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PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

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941 Corporate Center Drive
Pomona, CA 91768-2642
Phone: 626-386-1100

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)

Client Contact: _____
Shipping/Receiving _____
Company: Physis Environmental Laboratories

Sampler: _____
Phone: _____
Lab P.M.: Arada, Rachelle
E-Mail: Rachelle.Arada@eurofins.com

Accreditations Required (See note): State - Hawaii

Carrier Tracking No(s): _____
State of Origin: Hawaii

COC No: 380-57183.1
Page: Page 1 of 1

Address: 1904 Wright Circle,
City: Anaheim
State Zip: CA, 92806
Phone: _____
Email: _____
Project Name: RED-HILL
Site: Honolulu BWS Sites

Due Date Requested: 6/21/2023
TAT Requested (day): _____
WVO #: _____
Project #: 38001111
SSOV#: _____

Analysis Requested

Job #: 380-50374-1

Preservation Codes:

Sample ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Weird, Solid, Overstabil, BT+Triana, A&H)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note:
MOANALUA WELLS (380-50374-1)	6/5/23	09:59		Water		X	2	See Attached Instructions
AIEA GUICH WELLS PUMP 2 (380-50374-2)	6/5/23	11:42		Water		X	2	See Attached Instructions
AIEA WELLS PUMPS 1&2 (260) P2 (380-50374-3)	6/5/23	11:05		Water		X	2	See Attached Instructions
HALAWA WELLS UNITS 1 & 2 P1 (380-50374-4)	6/5/23	10:33		Water		X	2	See Attached Instructions

Analysis Requested: SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs

Preservation Codes:
A - HCl
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDTA
M - Hexane
N - None
O - AANAO2
P - Na2OAS
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4.5
Y - Triana
Z - other (specify)

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyze & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/mark being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.

Possible Hazard Identification

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Unconfirmed Deliverable Requested: I, II, III, IV, Other (Specify) _____
Primary Deliverable Rank: 2

Special Instructions/QC Requirements: _____

Empty Kit Relinquished by: _____ Date: _____
Relinquished by: _____ Date/Time: 06/09/2023 11:59 AM Company: EEA

Relinquished by: _____ Date/Time: 6/9/23 14:28 Company: Physis

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Yes No Custody Seal No.: _____
Cooler Temperature(s) °C and Other Remarks: _____



Project Iteration ID: 1407003-408
 Client Name: Eurofins Eaton Analytical
 Project Name: RED-HILL Project # 38001111 Job # 380-50374-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: MN
2. Date Received: 6/9/23
3. Time Received: 1430
4. Client Name: Eurofins
5. Courier Information: (Please circle)
 - Client
 - UPS
 - Area Fast
 - DRS
 - FedEx
 - GSO/GLS
 - Ontrac
 - PAMS
 - PHYSIS Driver:
 - i. Start Time: _____
 - ii. End Time: _____
 - iii. Total Mileage: _____
 - iv. Number of Pickups: _____
6. Container Information: (Please put the # of containers or circle none)
 - 1 Cooler
 - ___ Styrofoam Cooler
 - ___ Boxes
 - None
 - ___ Carboy(s)
 - ___ Carboy Trash Can(s)
 - ___ Carboy Cap(s)
 - Other _____
7. What type of ice was used: (Please circle any that apply)
 - Wet Ice
 - Blue Ice
 - Dry Ice
 - Water
 - None
8. Randomly Selected Samples Temperature (°C): 8.2 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: R6H

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out..... Yes / No
2. All sample containers arrived intact..... Yes / No
3. All samples listed on COC(s) are present..... Yes / No
4. Information on containers consistent with information on COC(s)..... Yes / No
5. Correct containers and volume for all analyses indicated..... Yes / No
6. All samples received within method holding time..... Yes / No
7. Correct preservation used for all analyses indicated..... Yes / No
8. Name of sampler included on COC(s)..... Yes / No

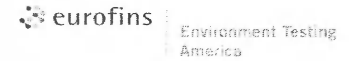
Notes:

See temp

Monrovia, CA (Suite 100)

750 Royal Oaks Drive Suite 100
 Monrovia, CA 91016
 Phone (626) 386-1100

Chain of Custody Record



Client Information		Sampler: BAILEY		Lab PM: Arada, Rachele		Carrier Tracking No(s):		COC No: 380-27941-2757.2																	
Client Contact: Dr. Ron Fenstermacher		Phone: 808-748-5840		E-Mail: Rachele.Arada@et.euronisus.com		State of Origin:		Page: Page 1 of 2																	
Company: City & County of Honolulu				PWSID:		Analysis Requested																			
Address: 630 South Beretania Street; Chemistry Lab		Due Date Requested:		Field Filtered Sample (Yes or No) Perform: MS/MSD (Yes or No)		SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs		SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)		SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil		525.2.PREC. (MOD) 525plus PLUS TICs		SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)		537.1.DW.PREC. 537.1 Full List		533 - All Analytes		Total Number of containers		Preservation Codes:			
City: Honolulu		TAT Requested (days):																				A - HCL		M - Hexane	
State, Zip: HI, 96843		Compliance Project: A No																				B - NaOH		N - None	
Phone: 808-748-5091 (tel)		PO #: C20525101 exp 05312023																				C - Zn Acetate		O - AsNaO2	
Email: rfenstermacher@hbws.org		WO #:																				D - Nitric Acid		P - Na2O4S	
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111		E - NaHSO4		Q - Na2SO3		R - Na2S2O3		S - H2SO4		T - TSP Dodecahydrate		U - Acetone		V - MCAA		W - pH 4-5		Y - Trizma		Z - other (specify)			
Site:		SSOW#:		Other:																					
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Field Filtered Sample (Yes or No)		Perform: MS/MSD (Yes or No)		Subcontract		Special Instructions/Note:									
MOANALUA WELLS		5-Jun-2023		0959		G		Water		X		X		R R RA RA Y N		1-7723 6444 3089									
AIEA GULCH WELLS PUMP2		5-Jun-2023		1142		G		Water		X		X		R R RA RA Y N		2-7723 6444 3023									
AIEA WELLS PUMPS 1&2 (260) P2		5-Jun-2023		1105		G		Water		X		X		R R RA RA Y N		3-7723 6444 2943									
HALAWA WELLS UNITS 1&2 P1		5-Jun-2023		1033		G		Water		X		X		R R RA RA Y N		4-7723 6444 3148									
TB MOANALUA WELLS		5-Jun-2023		0959				Water																	
TB AIEA GULCH WELLS PUMP2		5-Jun-2023		1142				Water																	
TB AIEA WELLS PUMPS 1&2 (260)		5-Jun-2023		1105				Water																	
TB HALAWA WELLS UNITS 1&2		5-Jun-2023		1033				Water																	



380-50374 COC

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: **FED EX ↑ 4 COOLERS**

Relinquished by: BAILEY	Date/Time: 06 JUN 2023 1400	Company: HBWS	Received by: GREITNER	Date/Time: 06/07/2023 10:00	Company: EEA
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Yes No Custody Seal No.: _____

Cooler Temperature(s) °C and Other Remarks: **GEL-FROZEN-(751A)**
 1 - 1.7° - 0.2° = 1.5°
 2 - 2.5° - 0.2° = 2.3°
 3 - 2.8° - 0.2° = 2.6°
 4 - 1.4° - 0.2° = 1.2°

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-50374-2

Login Number: 50374
List Number: 1
Creator: Elyas, Matthew

List Source: Eurofins Eaton Analytical Pomona

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

